BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 11-2AC-130W, VOLUME 3, ADDENDA A

23 APRIL 2015

Flying Operations

AC-130W OPERATION CONFIGURATION/MISSION PLANNING

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

OPR: HQ AFSOC/A3V

Certified by: AF/A3O
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This publication implements Air Force Policy Document (AFPD) 11-2 *Aircrew Operations* and Air Force Instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure.* This instruction establishes basic cargo compartment configuration, standard equipment, and location of such equipment aboard the AC-130W aircraft. This instruction applies to Air Force Special Operations Command (AFSOC) units charged with configuring and operating the AC130W aircraft. This publication does not apply to the Air National Guard (ANG). This publication does not apply to Air Force Reserve Command (AFRC) units. The Privacy Act of 1974 applies to certain information gathered pursuant to this instruction. The Privacy Act System Number F011 AF XO A, Aviation Resource Management Systems (ARMS) covers required information. The authority for maintenance of ARMS is 37 U.S.C. 301a (Incentive Pay), Public Law 92-204, Section 715 (Appropriations Act for 1973), Public Laws 93570 (Appropriations Act for 1974) and 93-294 (Aviation Career Incentive Act of 1974), DoDD 7730.*57 (Aviation Career Incentive Act of 1974 and Required Annual Report, February 5, 1976, with Changes 1 and 2)*, and Executive Order 9397, as amended. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records,* and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located in the Air Force Records Information Management System (AFRIMS).

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Chapter 1

POLICY

1.1. General. This instruction establishes basic cargo compartment configuration, standard equipment, and its location aboard the AC-130W aircraft. Those who use this instruction should bear in mind that an infinite number of variations are available and that the cargo compartment configurations listed here are the most typical encountered day-to-day.

1.2. Responsibilities. Personnel engaged in planning operations must consider the most appropriate configuration that will satisfy mission requirements and permit minimum variations and man-hours to change. Units performing services on the AC-130W aircraft (e.g., maintenance, Aircrew Flight Equipment (AFE) personnel) are responsible for configuring the aircraft in accordance with (IAW) this instruction and as outlined in mission directives to include the stowage/installation of equipment IAW the configuration and equipment tables outlined herein. (T-2)

1.3. Codes. Use the following codes when referring to AC-130W cargo compartment configuration. The letter code will be followed by a number identifying configuration capability. (T-2)

1.3.1. AE – Aero-medical Evacuation.

1.3.2. C – Cargo.

1.3.3. CP – Cargo and Passengers.

1.3.4. P – Passenger.

1.4. Modifications. The coded configurations of this regulation may require modification for a specific mission. Each modification must be carefully evaluated prior to mission execution to ensure maximum flight safety and compatibility with aircraft equipment. Each mission directive will identify the basic configuration by code and the modification, if necessary, to satisfy mission requirements. For example, a cargo mission may require additional seats or equipment such as a bulldog winch not in the C-cargo configuration. Indicate the mission directive configuration C (number as applicable) and modification, e.g., two additional seats and bulldog winch required. (T2)

1.5. Weight and Balance.

1.5.1. Configuration and necessary equipment changes to conduct special operations missions affect the weight and balance of the aircraft. To standardize equipment and the location of equipment, items shown in **Table 2.1** will be included in the basic weight of the aircraft and remain on the aircraft except for maintenance, inspection and when removal is directed by this Air Force Instruction (AFI) Equipment listed in **Table 2.2,** will be added as necessary and entered on DD Form 365-4, *Weight and Balance Clearance Form F*, reference 5, 6, or 7. For simplicity the aerial gunner will (when preparing the DD Form 365-4) enter the weight contained in the equipment tables for the applicable configuration. Adjustments will be made when the actual on-board weight of an item varies from data shown. DD Form 365-4 will be completed IAW instructions in **Chapter 5**. (T-2)

1.5.2. When a configuration change that removes items listed in **Table 2.1** is accomplished at a Forward Operating Location and no Quality Assurance (QA) branch weight and balance authority is deployed to the location, maintenance personnel will put an info note in the Air Force Technical Order (AFTO) Form 781A, *Maintenance Discrepancy and Work Document* indicating the weight, fuselage station and moment of any equipment added or removed. The aerial gunner will add or subtract the listed weight and moment from the last entry in the DD Form 365-3, Chart C, *Basic Weight and Balance Record*. Annotate the new weight and moment in Block 1 of DD 365-4. Configuration changes accomplished at home station require a QA update to the DD Form 365-3, Chart C. (T-2) **Exception:** Minor equipment changes after crew reporting may be annotated on the DD Form 365-4, by the aerial gunner.

1.6. Distribution. Commanders are responsible for bringing this publication to the attention of all affected personnel. At least one copy will be maintained in the unit operations section. It will be readily accessible to operations and aircrew personnel. Additional distribution will be as follows: (T-2)

1.6.1. Staff operations, all levels.

1.6.2. All levels of aircrew standardization offices.

1.6.3. Aircraft maintenance squadrons/units, Dash 21 equipment sections, Quality Assurance sections.

1.6.4. AFE sections.

1.6.5. One located in the supplemental weight and balance handbook binder on each aircraft.

1.7. Revisions. All revisions will consist of electronic interim change or new publication. Personnel at all echelons are encouraged to make recommendations to improve this instruction. Direct proposed changes to AFSOC/A3V in accordance with AFI 11-202, Vol 2, *Aircrew Standardization/Evaluation Program*, and AFI 11-215, *USAF Flight Manual Program*. Use AF Form 847, *Recommendation for Change of Publication*. (T-2)

1.8. Supplements. Subordinate unit supplements to this instruction that change the basic policies, procedures, or formats prescribed herein are prohibited. **Exception:** Groups may supplement **Table 2.2** with additional items. They may also supplement **Chapter 3** with specified configuration modifications to accommodate theater unique requirements. Forward supplements to Headquarters (HQ) AFSOC/A3V for approval. (T-2)

1.9. Aircrew Flight Equipment Requirements. **Table 2.1** and **Table 2.2** reflect minimum numbers of equipment and the prescribed locations on the aircraft.

1.10. Overhead Rack. Under no circumstances will oil, hydraulic fluid or any other liquids be placed in the overhead rack (if installed). (T-2)

Chapter 2

CONSOLIDATED EQUIPMENT TABLES

2.1. General. Configure AC-130W aircraft with the equipment listed in **Table 2.1**. Include the items listed in **Table 2.1** in the aircraft basic weight on the DD Form 365-3 (see exception in **Paragraph 1.5** of this AFI). Add items listed in **Table 2.2**, as necessary, to attain a specific configuration and/or comply with mission directives. AFE will be configured aboard the aircraft IAW with **Table 2.3** Items in **Table 2.2** and **Table 2.3** will be annotated on the DD Form 3654 *Form F*. (T-2)

Table 2.1. AC-130W Standard Equipment.

Item	Equipment	Quantity	Location
1.	Aircraft Generator/starter pad	1	Stowed/attached in Technical Order (TO) bin at Fuselage Station (FS) 245.
2.	Aircraft Armor [2]	1 set	Installed IAW flight manual.
3.	Aerial Delivery System (ADS) pendulum pivot arm cover	1	Stowed on pivot arm.
4.	Air-conditioning Plugs	4	Stowed as required when not installed.
5.	AR-44 cover	1 set	AR-44 in bag at FS 245.
6.	Auxiliary Power Unit (APU) exhaust plug	1	Stowed as loose equipment.
7.	Avfuels Identiplate	1	Stowage in single point refueling door.
8.	Axe, hand emergency	2	Installed IAW flight manual.
9.	Belt, seat safety	22 sets	Installed or stowed with seat or stowed in cargo door.
10.	Cargo door down locks	2	Stowed in cargo door bin #3.
11.	Center seat back /beam support (extensions)	2	Stowed aft of left wheel-well.
12.	Center seat back support beams (lower)	3	2 stowed forward of left wheel-well. 1 stowed as required.
13.	Center seat back support beams (upper)	3	Stowed at FS 377 right side.
14.	Chain, tie-down 10,000 lb	28	Stowed in containers-12 at FS 763 and 22 at FS 783 left side.
15.	Coffee/water jugs	2	Galley FS 188.
16.	Crank, main landing gear and flap emergency	2	Stowed at FS 477 left and FS 467 right sides.
17.	Curtain, blackout	1	Installed or stowed overhead FS 245 left side.

Item	Equipment	Quantity	Location
18.	Curtain, flight deck	1 set	Installed/stowed overhead flight deck area.
19.	Curtain, porthole covers	1 set	One curtain stowed next to each porthole window.
20.	Device, tie-down 10,000 lb [1]	28	Stowed in racks-12 at FS 790 left, 12 at FS 245, and 10 at FS 925 right side.
21.	Dual Rails A/A32H-4/A	1 set	Cargo Compartment.
22.	Emergency escape ladder	1	Stowed on left side forward of wheel-well.
23.	Engine intake/exhaust covers	1 set	Stowed as required.
24.	Fire Extinguisher	4	Installed IAW flight manual.
25.	First aid kits	9	Two on flight deck, 7 stowed in cargo compartment.
26.	Fluid, hydraulic cases	1	One case stowed in bin at FS 825 left side or as required.
27.	Fluid, Oil Case	1	One case stowed in right side bottom chain box at FS 783 or as required.
28.	Fuel tank drain tube (pogo stick)	1	Overhead bracket FS 980.
29.	Ground wires	2	Stowed as required.
30.	Guard assembly, ramp actuator	2	Stowed as required.
31.	Hot cup	2	In cupboard at Galley FS 188.
32.	Interphone Communication System (ICS) cords, four 75 feet (ft), five 6ft., two 15 ft and 2 pilot interphone cords	13 [3]	One each 6 ft w/o Push-to-talk (PTT) installed at Pilot & Copilot. 1 each 6 ft installed at the Flight Engineer (FE) & Navigator (Nav) station. 1 each 15 ft at Instructor Pilot (IP) & 2nd Nav station, 3 each 6 ft installed at each Mission Operator Pallet (MOP) station and 1 each 75 ft cord at 4 Aerial Gunner (AG) stations.
33.	Jack and tow fitting	2	Stowed in cargo door storage.
34.	Jack pads	1 set	Stowed on FS 245 right side.
35.	Lamp, Aldis with lens kit	1	As required.
36.	Latrine curtain	1	Cargo door stowage bin or installed.
37.	Life rafts	2 [4]	Stowed in left & right wing well compartments.
38.	Light, emergency exit	7	Adjacent to each emergency exit, IAW flight manual.
39.	Liquid container, emergency	8 [5]	Installed IAW flight manual.

Item	Equipment	Quantity	Location
40.	Litter brackets	70	Five each installed on side center litter stanchions, 4 each installed on sidewall litter stanchions, 20 installed on emergency escape ladder.
41.	Litter straps w/brackets (center and sidewall)	8	Attached/stowed in respective container bags aft of the wheel-well.
42.	Locking device, paratroop doors.	2	Stowed as required when not installed.
43.	Locking device, side exit.	1	Stowed as required when not installed.
44.	Main Landing Gear - Emergency Tie-down	2	Stowed in TO bin at FS 245.
45.	Main landing gear locking assembly	2	In cargo door storage.
46.	Maintenance ladder	1	Stowed as required.
47.	Oxygen bottle, walk around, A-6 with harness	4	Install IAW Flight Manual.
48.	Oxygen Hose Extensions	9	Three 3 ft hoses with each MOP oxygen regulator Six 11 ft hoses (1 at each cargo compartment oxygen regulator and 2 stowed in inside cargo door storage
49.	Oven	1	Galley FS 188.
50.	Loadmaster crash worthy seats	2	Installed adjacent to each paratroop door.
51.	Pitot covers	2	Stowage bag, FS 240 bulkhead.
52.	Ramp air deflectors	2	Installed on cargo ramp.
53.	Roller Conveyors	20	Two ea sections 9, 10, 15, 16. 1 ea sections 11, 12. 4 ea section 13, 6 ea section 14. Installed on floor or stowed on top of Dual Rails.
54.	Rope, emergency escape	3	Installed aft of each overhead escape hatch.
55.	Seat support brackets wheel-well (lower)	6	Stowed FS 640 left side.
56.	Seat support tubes, wheel-well (upper)	2	Installed in left and right wheel-well.
57.	Stanchions (litter/seat)	3	Three Stowed at fwd bulkhead FS 245.
58.	Straps, tie-down 10,000 lb	8 [1]	Stowed in cargo door.
59.	Straps, tie-down 5,000 lb	20 [1]	Up to 12 stowed at FS 390 left sidewall remainder stowed in cargo door.

Item	Equipment	Quantity	Location
60.	Sun visors	2	Stowed above pilot/copilot side windows.
61.	Technical pubs	1 set	Stowed FS 245 left side TO bin.
62.	Troop seat, two-man	10	Installed or stowed at stowage locations along sidewalls.
63.	Wheel chocks	4	Stowed as required when not in use.
64.	Wrench, emergency main landing gear	1	Stowed FS 437 left sidewall litter stanchion

Note:

1. Minimum equipment required. Units may add more equipment to meet specific mission or theater requirements. At all times, the amount of tie-down equipment required will include enough equipment to secure the landing gear in an emergency as well as secure all cargo and loose equipment. When additional equipment is added, QA will update the DD Form 365-3, *Chart C* (see exception in **Paragraph 1.5** of this AFI).

2. Armor is not required for all missions. When Armor is installed, it will be annotated on the DD Form 365-3, Chart C. If individual pieces of armor are added for a specific mission, maintenance personnel will annotate the weight of the pieces in the AFTO Form 781A and the aerial gunner will annotate on the DD Form 365-4 *Form F.*

3. Additional interphone cords may be required depending on crew complement and mission requirements.

4. Personnel aboard the aircraft for overwater missions will be limited to the amount the life rafts are capable of carrying (no more than 20 personnel per life raft carried).

5. All two-gallon emergency water containers will be stored empty. If mission dictates, containers will be sanitized and filled with water by support personnel. Annotate in 781K emergency water containers are full. After the mission, sanitize and dry containers then reinstall. When the water containers are filled the DD Form 365-3, *Chart C* will be updated to reflect the added weight (see exception in **Paragraph 1.5** of this AFI).

6. Roller conveyors may be removed dependent on aircraft configuration. DD Form 365-3, will be updated accordingly (see exception in **Paragraph 1.5**). Unless mission necessity dictates otherwise, aircraft will depart home-station with all roller conveyors.

Table 2.2. AC-130W Mission Equipment.

Item	Equipment	Quantity	Location
1.	Auxiliary ground loading ramps	A/R[1]	As required.
2.	Blackout kit	1	As required.
3.	DC Power Cable (winch)	1	If winch is required.
4.	Flash blindness goggles	A/R	As required.

Item	Equipment	Quantity	Location
5.	Hostile Environment Repair Procedures (HERP) Tool Kit	1	Stowed IAW local directives.
6.	Mission kit	1	Stowed as required.
7.	Parachute, rack	2	Secured in cargo compartment as required.
8.	Pry bar	1	As required.
9.	Ramp Support (Milk	1[1]	As required.
10.	Safe	1	Installed/stowed as required.
11.	Tool box	1	As required.
12.	Water container (Igloo)	1	As required.
13.	Weapon storage box	1	As required.
14.	Winch, cargo handling	1[1]	As required.
Note: 1. Required for all off-station missions. If not required for mission, the squadron commander, director of operations, or assistant director of operations may authorize off-station departure without these items.			

Table 2.3. AC-130W Aircrew Flight Equipment.

		Quantity		
Item	**Equipment**	**Local Training**	**Operational/ Contingency**	**PDM Input**
1.	Emergency Passenger Oxygen System (EPOS)[1]	A/R	A/R	0
2.	Firefighter's Smoke Mask and Bag [2]	4	4	4
3.	Harness, Restraint [3]	3	3	2
4.	Kit, Protective Clothing (PCK)	A/R	A/R	0
5.	Kit, Survival, ML-4 [4]	12	A/R	0
6.	Life Preserver: LPU-10/P, Adult-Child, and LPU-6/P (Infant Cot) [5]	A/R	A/R	A/R
7.	Mask, Quick-Don [6]	6	6	4
8.	Parachute, Back [4]	12	A/R	A/R
9.	Protective Breathing Equipment (PBE)/Emergency Escape Breathing Device (EEBD) [7]	8	8	5
10.	Suit, Anti-Exposure [8]	A/R	A/R	0
11.	Vest, Aircrew Body Armor	0	A/R	0

12.	Vest, Survival [4]	0	A/R	0

Notes:

1. On missions with passengers, carry passenger emergency oxygen systems (EPOS or other approved passenger oxygen system) if flight above Flight Level (FL) 250 is planned. Minimum quantity is one per passenger. Position the systems as required for quick access by passengers. Mixing of EPOS or other passenger oxygen systems on the same aircraft is not authorized.

2. Two on the flight deck adjacent to walk around oxygen bottle stowed at the pilot's and copilot's stations, one attached to walk around oxygen bottle stowed on the aft side of FS 245, and one attached to the walk around oxygen bottle stowed forward of the right paratroop door.

3. Position one on the flight deck; two stowed in the cargo compartment as required.

4. Minimum requirement is one parachute and ML-4 survival kit for each aircrew member. Survival vests may be used in lieu of ML-4 survival kits if the mission will not be conducted beyond gliding distance of land. Parachutes will be stowed in AFE bins at FS 800 right side, on the parachute racks (if installed), or in the cargo compartment as required; ML-4 kits will be stowed in the AFE storage bins right-side FS 800 or in the cargo compartment as required.

5. During overwater missions, every person on the aircraft will have a suitable flotation device. LPU-10/P quantities will match parachutes. Adult/Child Life Preserver Units (LPU) will not be used with parachutes, survival vest, aircrew body armor, or Aircrew Eye Respiratory Protection System (AERPS) gear. Stowed in AFE bin FS 800 right side or in cargo compartment as required.

6. Quick-dons will be positioned at each crew station.

7. Position four PBE/EEBDs on the flight deck and four in the cargo compartment.

8. Anti-exposure suits are required when overwater or beyond power-off gliding distance from land and the water temperature is 60 degrees Fahrenheit or below. When required, minimum quantity is one per aircrew member. Stowed in AFE bin FS 800 right side or in cargo compartment as required.

Chapter 3

CARGO COMPARTMENT CONFIGURATION

3.1. Configuration. This chapter contains basic cargo compartment configurations for the AC130W Aircraft. Although modifications to the basic configuration are authorized to meet special requirements, the following factors should be considered:

3.1.1. Sidewall and wheel-well seats should be installed/stowed on all missions unless otherwise depicted by this instruction. One-man sidewall seats will not be used unless connected to a two-man seat. (T-2)

3.1.2. Pallet position six is limited to 4,527 pounds when dual rails, rollers, and ramp air deflectors are installed. With only dual rails and ramp air deflectors installed (rollers removed), pallet position six is limited to 4,687 lbs (see TO 1C-130A-9, *Cargo Loading Manual*, for other restrictions). (T-2)

3.1.3. Drawings in this volume are not drawn to scale with respect to actual aircraft locations.

3.1.4. Safety aisle requirements are depicted in **Paragraph 4.2** and **Figure 4.1**.

3.1.5. When the load consists of palletized netted cargo or is secured with straps, maintain a 30-inch space between cargo and the nearest forward litter, occupied seat or nuclear cargo. When cargo, either palletized or non-palletized, is secured with chains, 30-inch spacing is not required. (T-2) **Exception**: Always maintain the 30-inch spacing on AE missions, when carrying litters. (T-2)

3.2. Legend of Configurations. These configurations are the most common, but may be altered to meet mission requirements. If all weapon systems are removed from the aircraft (i.e., Gun Pallet and MOP are removed) individuals responsible for configuring the cargo compartment may refer to AFI 11-2MC-130, Vol 3, Addenda B, *MC-130H Operation Configuration/Mission Planning*, for additional configuration options. The configurations contained in AFI 11-2MC-130, Vol 3, Addenda B may be restricted due to availability of cargo compartment equipment.

3.2.1. AE-1. This aeromedical configuration provides 20 litter spaces (high density) and a total of 4 seats, seat belts on 20 inch centers. (Reference **Figure 3.1** and **Table 3.1**.)

3.2.2. C-1. This configuration provides for floor loaded cargo or rolling stock. (Reference **Figure 3.2 and Table 3.2.)**

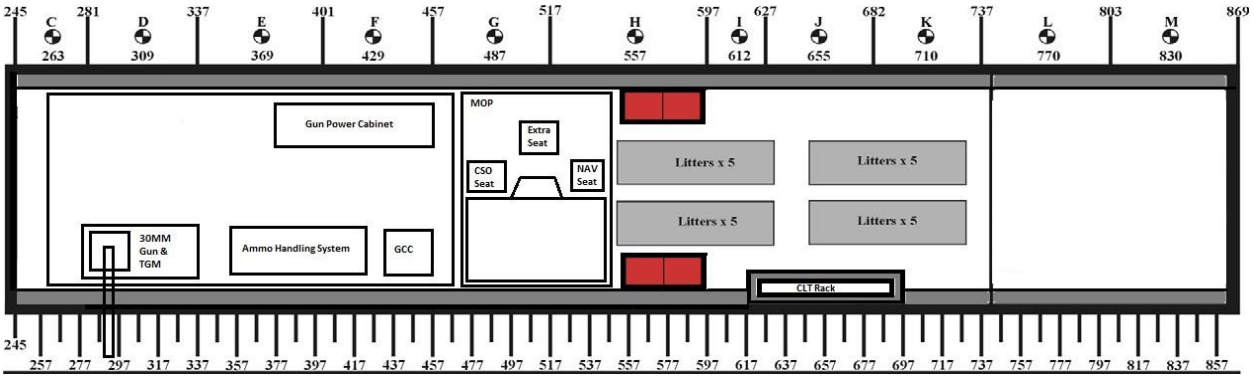
3.2.3. C-2. This configuration provides three pallet positions for loading palletized cargo. Seating is dependent on cargo load. (Reference **Figure 3.3** and **Table 3.3)**

3.2.4. CP-1. This cargo and passenger combined configuration provides 4 wheel-well seats with seat belts on 20 inch centers. Center seats may be installed as required. (Reference **Figure 3.4** and **Table 3.4**)

3.2.5. P-1. This passenger configuration provides 20 wheel-well and center-aisle seats with seat belts on 20 inch centers. Four additional seats may be added aft of the left wheel-well if the Common Launch Tube (CLT) rack is removed. (Reference **Figure 3.5** and **Table 3.5**) **Note:** The number of personnel on board is limited on overwater flights by the number of

life rafts available. The emergency escape ladder will be installed on overwater flights, cargo permitting. Required emergency equipment must be ordered from AFE. (T-2)

Figure 3.1. AE-1 (Aeromedical).



Notes:

1. This configuration provides 20 litter spaces (high density) and total of 4 seats, seat belts on 20 inch centers.

2. The number in the litter spaces indicates the maximum number of litters per tier.

3. Two extra oxygen bottles will be available for medical personnel.

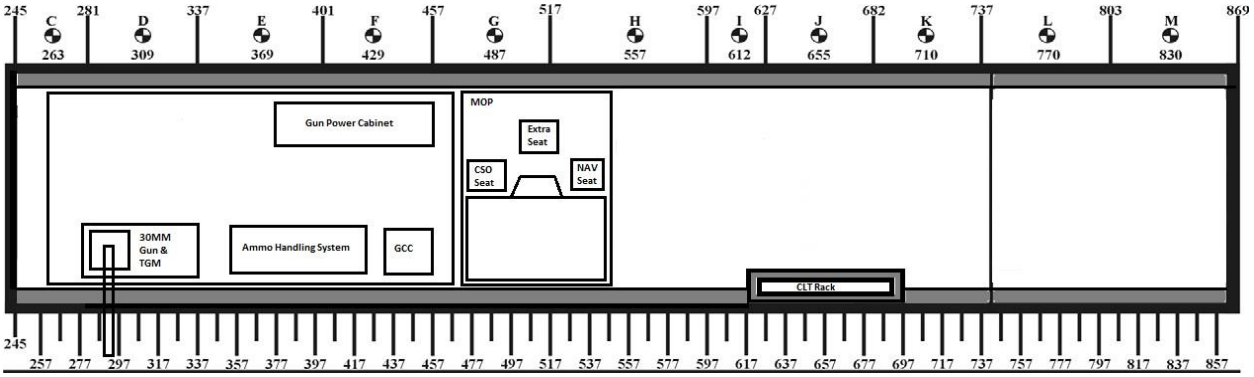
4. Roller conveyors are stowed on top of dual rail covers, except as required for baggage pallet.

5. Cargo may be loaded with concurrence of medical crew director.

Table 3.1. AE-1 Extra Equipment.

1. Blackout Kit.
2. Ramp Support (off-station missions).
3. Cargo Winch and Power Cable (off-station missions).
4. Auxiliary Ground Loading Ramps (off-station missions).
5. As required by mission directives.

Figure 3.2. C-1 (Cargo).



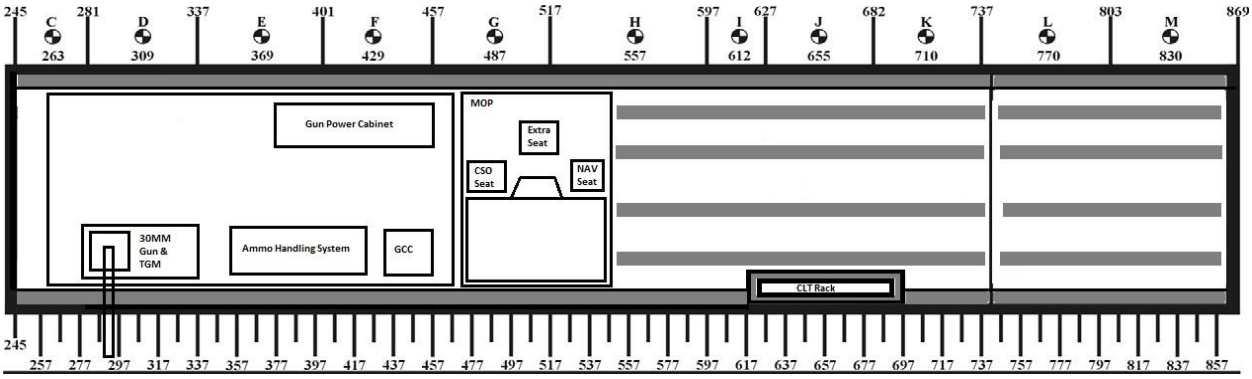
Notes:

1. This configuration provides for cargo on floor/rolling stock.
2. Roller conveyors are stowed on top of dual rail covers.
3. Seating availability dependent on amount and type of cargo loaded.

Table 3.2. C-1 Extra Equipment.

1. Ramp Support (off-station missions).
2. Cargo Winch and Power Cable.
3. Auxiliary Ground Loading Ramps x2. Additional ground loading ramps may be added if required for the mission.
4. As required by mission directives.

Figure 3.3. C-2 (Cargo).



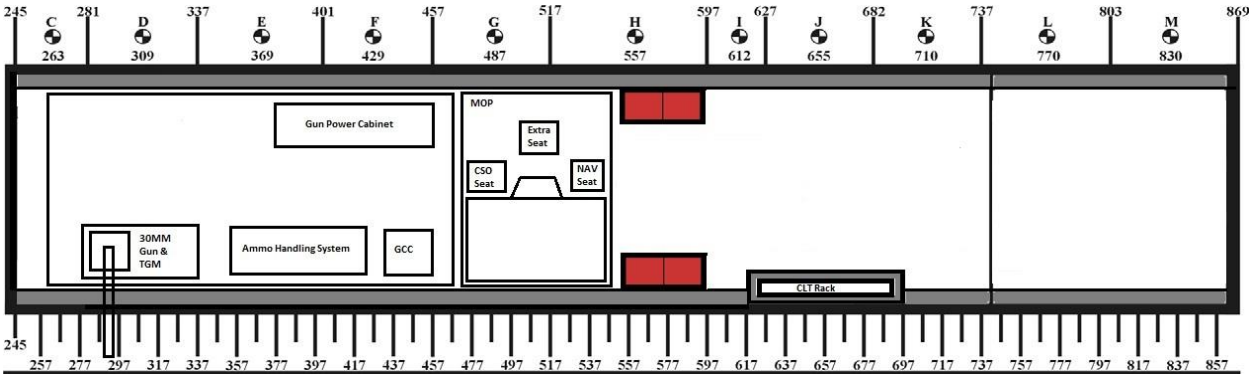
Notes:

1. Provides three pallet positions for loading palletized cargo.
2. Restraint rails and intermediate roller conveyors installed to provide maximum pallet utilization.
3. Seating availability dependent on number of pallets.

Table 3.3. C-2 Extra Equipment.

1. Ramp Support.
2. Cargo Winch and Power Cable (off-station missions).
3. Auxiliary Ground Loading Ramps x2 (off-station missions).
4. As required by mission directives.

Figure 3.4. CP-1 (Cargo and Passengers).



Notes:

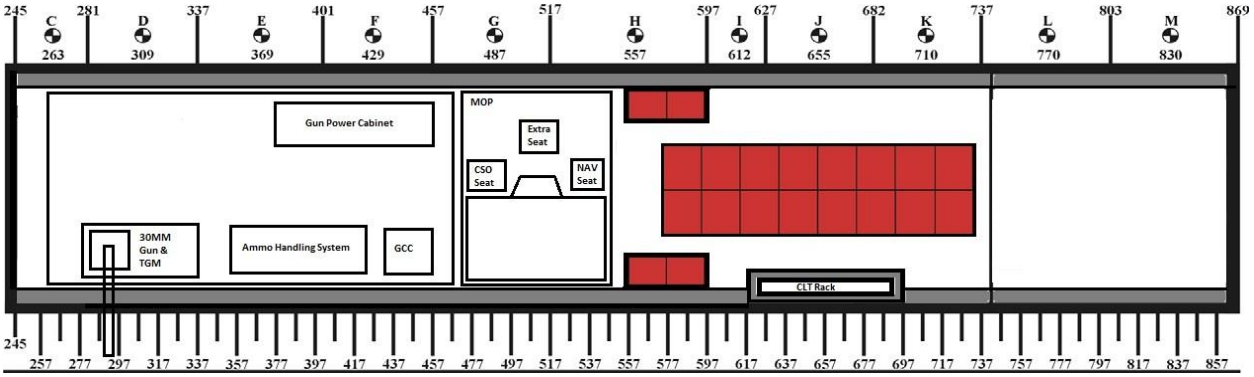
1. 4 wheel-well seats, seat belts on 20 inch centers. Center seats may be installed as required.

2. Roller conveyors will be removed and secured on top of dual rail covers. Depending on mission requirements roller conveyors may be installed.

Table 3.4. CP-1 Extra Equipment.

1. Ramp Support (off-station missions).
2. Cargo Winch and Power Cable (off-station missions).
3. Auxiliary Ground Loading Ramps x2 (off-station missions).
4. As required by mission directives.

Figure 3.5. P-1 (Passenger).



Notes:

1. 20 wheel-well and center-aisle seats, seat belts on 20 inch centers, 20 seats offered.

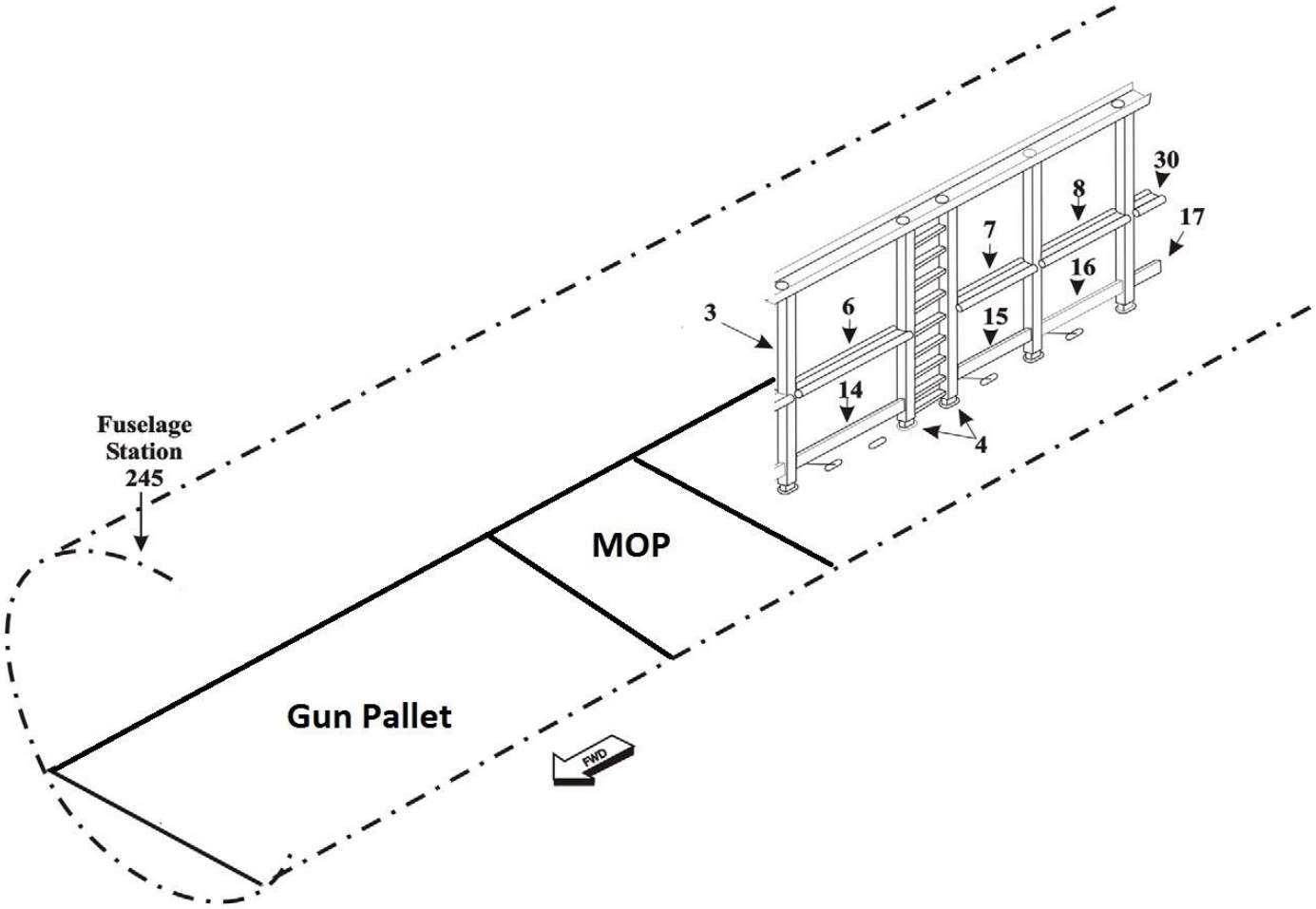
2. Outboard roller conveyors are removed and stowed in the inboard location under center-aisle seats or on top of the dual rails as required.

3. Ramp roller conveyors installed/removed as required.

Table 3.5. P-1 Extra Equipment.

1. Ramp Support (off-station missions).
2. Cargo Winch and Power Cable (off-station missions).
3. Auxiliary Ground Loading Ramps x2 (off-station missions).
4. As required by mission directives.

Figure 3.6. Center-Aisle Seat Configuration.



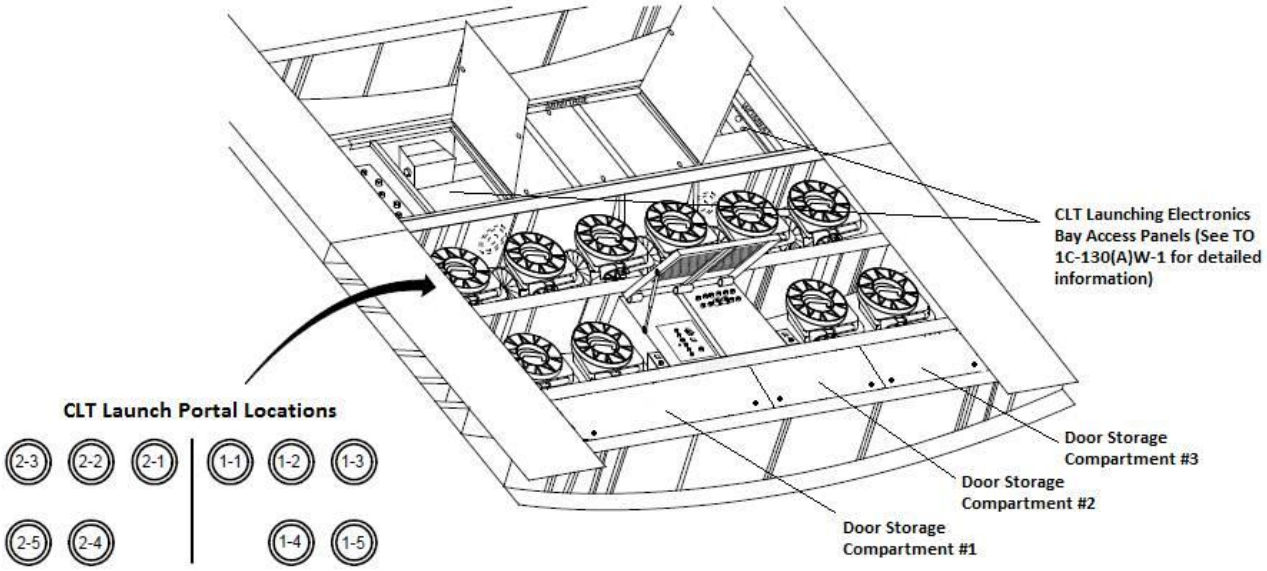
Notes:

1. Section 3: Litter stanchions (3).
2. Section 4: Seat and litter stanchion ladder (1).
3. Section 5: Not used due to gun pallet and MOP installation.
4. Section 6-8: Upper seat back support beams (1 EACH).
5. Section 9-13: Not used due to gun pallet and MOP installation.

6. Section 14-16: Lower seat support beams (1 EACH).

7. Section 17 & 30: Upper and lower seat support extensions.

Figure 3.7. Cargo Door Configuration.



Chapter 4

REFERENCE DATA

4.1. General. This chapter contains reference data to assist personnel in load planning.

4.2. Emergency Exits and Safety Aisles. Load aircraft in such a manner that the following emergency exits and safety aisles are available. (T-2)

4.2.1. At least one cabin emergency exit is unobstructed. (T-2)

4.2.2. At least one unobstructed emergency exit is available for each 20 personnel on-board. This does not restrict overwater flights if the three overhead escape hatches are available for egress. Litters and seats erected across an emergency exit are not considered as an obstruction. (T-2)

4.2.3. When passengers are being airlifted, an unobstructed aisle way will be maintained in the wheel-well, next to the aft right cheek rack (pallet positions 3 & 4) and ramp area (pallet position 6) to provide access to emergency exits. In the wheel-well area the aisle way will be a minimum of 14 inches wide between the outer edge of the cargo and the aircraft and will begin at the cargo floor **Figure 4.1 A**. Tie-down equipment (463L nets, straps, chains, and devices) shall not normally be considered an obstruction. The aisle way will be on the right side of the aircraft due to MOP installation. If the aisle way is placed on the right side of the aircraft, then clearance to the right side of the aircraft must be maintained. The dual rail outboard frame provides 8 inches of the 14 inch requirement on the main cargo floor. In the ramp area the aisle way will be a minimum of 8 inches beginning at the outboard edge of the dual rail frame. Access to aft latrine facilities requires an 18-inch clear area on the forward right side of the cargo loaded on the ramp. (T-2)

4.2.4. If safety aisle requirements in **Paragraph 4.2.3** cannot be achieved on missions carrying crew only or mission essential personnel authorized by operations order/plan or COMAFSOF, then a safety aisle will be maintained in the wheel-well area to provide the following minimum clearance (**Figure 4.1 B**). (T-2)

4.2.4.1. At least 14 inches between the outer edge of the cargo and the aircraft beginning no higher than 36 inches above the floor/pallet/platform.

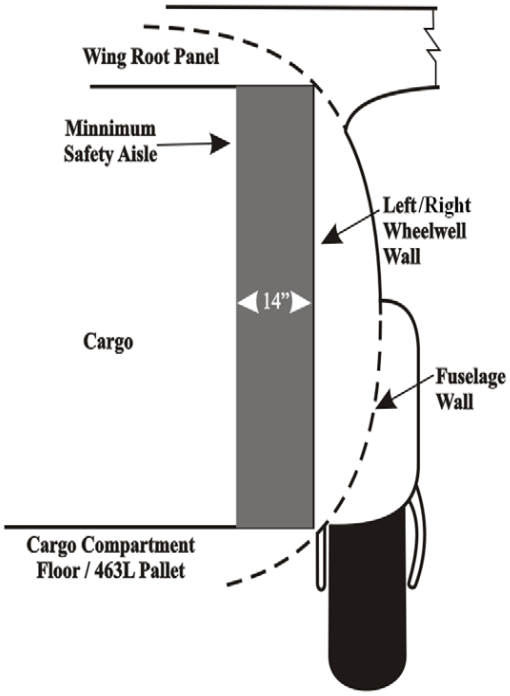
4.2.4.2. Or a minimum of 30 inches between the outer edge of the cargo and the aircraft beginning no higher than 60 inches above the floor/pallet/platform.

4.2.5. During all missions, aerial gunners shall have access to the rear of the aircraft to accomplish checklists. (T-2)

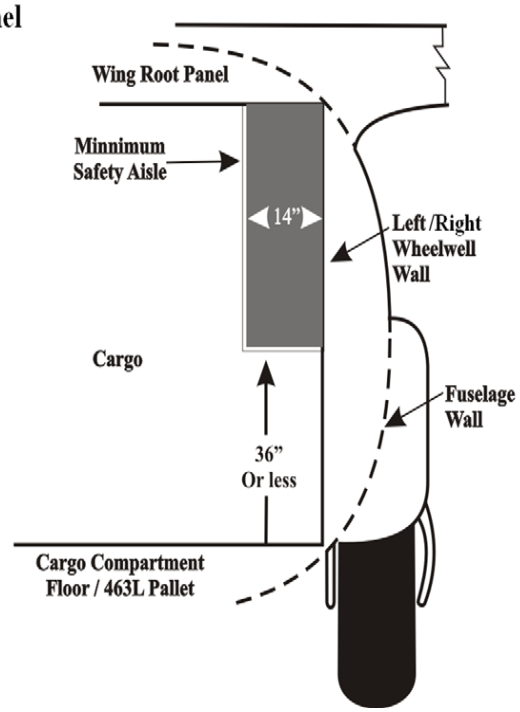
4.2.6. On all missions, cargo will be loaded in such a way that the crew will have access to the rear of the aircraft. The Aircraft Commander will be the final authority for determining if safety aisles and/or access aft of cargo are adequate. Cargo loads in **Chapter 6** of TO 1C-130A-9 are specific and do not require a waiver. (T-2)

Figure 4.1. Wheel-Well Safety Aisle.

A. With Passengers:



B. With Crew and Mission Essential Ground Personnel (MEGP) Only



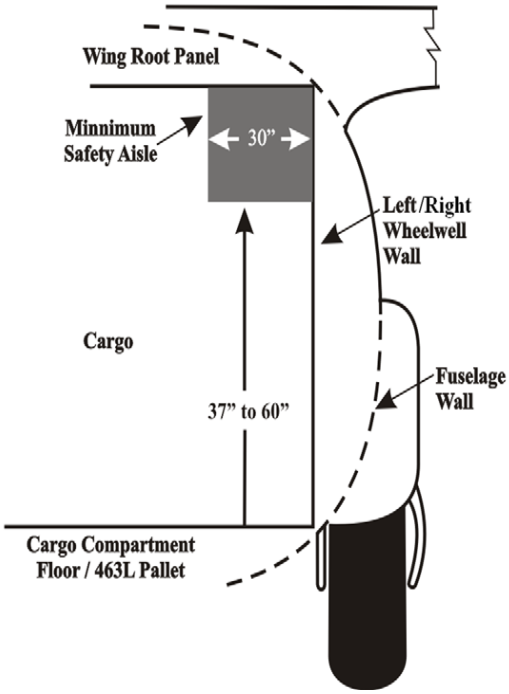


Table 4.1. Aircraft and Miscellaneous Equipment Standard Weights in Pounds.

Item	Weight (lbs)
Aircraft chocks (4)	52
Aux ground loading ramp (2)	84
Hot cup	3
Hydraulic fluid (case)	52
Intermediate Roller Conveyer Total Weight	612
Section 9 (2)	70
Section 10 (2)	70
Section 11 (1)	35
Section 12 (1)	35
Section 13 (4)	112
Section 14 (6)	141
Section 15 (2)	80
Section 16 (2)	80
Ladder, maintenance	42
Liquid container w/o contents (2 gal)	9
Liquid container w/contents (2 gal)	25
Litter, wooden/canvas	14
Oil (case)	52
Oxygen bottle, portable with harness	6
Oxygen console	100
Pry bar	49
Ramp air deflectors (set)	137
Ramp support (wooden)	85
Seat, side facing (1 person)	3.5
Seat, side facing (2 person)	7
Seat support beam lower	21
Seat support beam upper	11
Snatch block (PN 7320110-3)	8
Stanchion, seat/litter	30
Water, container (2 gal small Igloo w/contents)	25
Water, container (5 gal large Igloo w/contents)	50
Winch, cargo, HCU-9A	290
Winch, cargo, Hoover	249
Winch, cargo, Bulldog 41B	196
Winch, cargo, Bulldog 4lBG	175
Winch, power cable	48

Table 4.2. Crew/Passengers/Baggage Standard Weights in Pounds.

Item	Weight (lbs)
Crew	200
Pax (without bags)	175
Litter (includes everything except baggage)	195
Ambulatory (without bags)	160
Pax baggage	66

Table 4.3. Emergency Equipment Standard Weights in Pounds.

Item	Weight (lbs)
Adult/child life vest	1.5
Anti-exposure suits	6
Body Armor (no plates)	5.2
Body Armor (with plates)	15.6
Emergency escape breathing device (EEBD)	5
Emergency radio	2
Life raft (20 member)	180
LPU-10/P life vest	4
LPU-5/P life vest	4
LPU-6/P life vest (infant cot)	4
MB-1 life vest (casualty)	4
MD-1 life vest (child)	3
ML-4 seat kit	21
Parachute (back)	32
Parachute (chest)	16
Parachute (chest harness)	13
Passenger oxygen kit (15 per box)	30
Protective clothing kit	40
Quick don mask	2.5
Smoke mask	3
Survival vest	9
Restraint harness w/safety strap	9

Table 4.4. Ground Troops Standard Weights in Pounds.

Ground Troops	Training Weight (lbs)	Combat Weight (lbs)
Ground troop with web gear and weapon	210	240
Ground troop with web gear, weapon, and ruck sack	250	300
Ground troop with combat equipment tools	250	300
Ground troop with duffel bag, web gear and ruck sack	350	400
Ground troop with duffel bag and combat equipment/tools	350	400
Ruck Sack	40	80

Table 4.5. Tie-down equipment Standard Weights in Pounds.

Item	Weight (lbs)
Strap CGU-1/B (5,000 lb)	4
Strap (10,000 lb)	4
MB-1 chain/CGU-4/E	7
MB-1 devices/CGU-4/E	3.5
MB-2 chain/CGU-3/E	20
MB-2 devices/CGU-3/E	6
Pallet (HCU-6/E)	290

Pallet nets (1 set)	65

Table 4.6. Chaff and Flares.

Item	Weight (lbs)	Station	Moments
Nose Dispensers (4 Flares and 2 Chaff)	113.4	230	26
Main Wheel-well Dispensers (4 Flares and 4 Chaff)	150	650	98
Wing Pylon Dispensers (4 Chaff)	73.2	620	45
Tail Dispensers (2 Chaff)	36.6	1080	40
Total (full chaff and flare load)	373.2	N/A	209
Flare Canister [1]	19.2	A/R	N/A
Chaff Canister [1]	18.3	A/R	N/A
Notes:			
1. Weight listed is one full magazine; use to calculate partial loads by adding or subtracting weight and moments from locations listed above.			

Table 4.7. Weapon Systems Equipment/Munitions.

30mm Gun Weapon System (GWS) Items	Weight (lbs)	Full Weight (lbs)
Ammunition Can (Empty w/ Foam) w/ link	23	N/A
Bolt Puller	42	N/A
Dunnage Bag	9	72 (full bag)
Expended 30mm round casing w/ link	0.5	N/A
Gun Tool Kit (30mm)	20	N/A
PGU-13 (30mm HEI) w/ link	1.7	74 (full can)
PGU-15 w/ link	1.8	77 (full can)
PGU-46 (30mm HEI) w/ link	1.9	80 (full can)
Shovel	2	N/A
Precision Guided Munitions (PGM) Items	**Weight (lbs)**	N/A
CLT (Griffin)	48	N/A
CLT (Empty)	13	N/A
BRU-61/A	320	N/A
GBU-39B	267	N/A
GBU-39A/B	264	N/A

Chapter 5

DD FORM 365-4 INSTRUCTIONS

5.1. Introduction. This chapter provides instructions for computation and completion of DD Form 365-4 Form F. The Form F will be computed using simplified moments. The transport or tactical side of the Form F may be used. (T-2)

5.2. Load Planning. The cargo/ammunition load must be planned so that the center of gravity of the loaded aircraft will be within the specified forward and aft limits for any given operating condition. Consideration must be given to offload sequence, aircraft limitations, and emergency jettisoning. (T-2)

5.3. General Instructions. These instructions apply to forms using simplified moments, entries on the form may be either typed or handwritten. Approved computer generated Form Fs are also authorized (Automated Form F (AFF) or approved Electronic Flight Bag (EFB) programs).

5.3.1. DD Form 365-4 Heading. Enter date, mission number, aircraft type, serial number, departure and destination station (name or International Civil Aviation Organization (ICAO) identifier), aircraft's home station and pilot's rank and last name. (T-2)

5.3.2. Limitations Column. Enter appropriate weight and Center of Gravity (CG) limits for the planned mission using the following criteria: The maximum gross weight and CG limits specified in TO 1C-130(A)W-1, *Flight Manual AC-130W*, will not be exceeded. Gross weight may also be limited by operating conditions (i.e., obstacle clearance, rate of climb, weather conditions, altitude, runway/taxi-way bearing capacity, or any other published restrictions). The pilot/flight engineer will inform the aerial gunner of any gross weight restrictions prior to the mission so an accurate Allowable Cabin Load (ACL) may be obtained. (T-2)

5.3.2.1. Takeoff ACL (Transport Form F). Unless other restrictions are imposed, use 155,000 allowable gross weight for AC-130W aircraft, and subtract the total aircraft weight (**Reference 12**). (T-2)

5.3.2.2. Landing ACL (Transport Form F). Unless other landing restrictions are imposed, use 155,000 for AC-130W aircraft, and subtract operating weight plus estimated landing fuel (**references 9** and **23**). (T-2)

5.3.2.3. Limiting Wing Fuel (Transport Form F). Compute IAW limiting wing fuel charts in **Table 5.1** of this instruction or the charts in section V of TO 1C-130(A)W-1 for takeoff and landing. The most restrictive weight will be used. (T-2) **Note:** The limiting wing fuel chart in this instruction is based on a 2.5 G maneuver load factor with indicated airspeed restrictions outlined in area "C" of the flight manual limiting wing fuel charts. When specific mission requirements exceed the limitations outlined in area "C" of the limiting wing fuel charts, the aerial gunner must compute limitations using the appropriate flight manual limiting wing fuel chart in section V of TO 1C-130(A)W-1. (T-2) **Note:** Enter the allowable gross weight for limiting wing fuel and subtract the operating weight to determine limiting wing fuel allowable cabin load (ACL).

5.3.2.4. Permissible CG Takeoff and Landing. Compute the forward and aft center of gravity limitations using the center of gravity table in TO 1C-130(M)W-5, *Sample Basic Weight Checklists and Loading Data*. The permissible center of gravity (CG) zero fuel weight blocks will be left blank. (T-2)

5.3.3. Signature Block:

5.3.3.1. Computed by: Signature, rank, and organization.

5.3.3.2. Weight and Balance authority: Leave blank.

5.3.3.3. Pilot: Signature on original and duplicate.

5.4. Form F Instructions. Use TO 1C-130(M)W-5, *Sample, Basic Weight Checklist and Loading Data* and Chart E.

5.4.1. Remarks section**.**

5.4.1.1. Enter a breakdown of ramp fuel weight for each tank to the nearest 100 pounds and moments using the fuel moment tables contained in TO 1C-130(M)W-5. An alternate method of computing fuel moments is accomplished by multiplying the total fuel by 0.552. In this instance, show only the total fuel weight and moment for takeoff and landing. (T-2)

5.4.1.2. Enter estimated Fuel Burn Off (FBO) below the total takeoff fuel. Subtract anticipated fuel burn off from total takeoff fuel. If no Air Refueling (AR) is anticipated, this is your Estimated Landing Fuel (ELF). Enter the breakdown of ELF and total ELF in the remarks block. (T-2) **Note:** Use 5,000 – 6,500 pounds per hour to calculate FBO. When calculating FBO consider flying conditions (i.e., high-level/low-level flight) aircraft gross weight and aircraft configuration (i.e., additional drag created when Small Diameter Bombs (SDB) are loaded etc.). (T-2)

5.4.1.3. Enter anticipated fuel onload for AR (label it as AR) below the anticipated FBO. Add and subtract AR and FBO as appropriate to arrive at ELF. Enter the breakdown of ELF and total ELF in the remarks block. (T-2)

5.5. Transport Form F Instructions.

5.5.1. **Reference 1**. Enter basic weight and moment from the last entry of the certified copy of the DD Form 365-3, *Weight and Balance Record, Chart C* in the aircraft weight and balance handbook. (T-2)

5.5.2. **Reference 2**. Leave blank. (T-2)

5.5.3. **Reference 3**. Enter the number of crew members, locations, weight, and moment from crew/cargo compartment tables. (T-2)

5.5.4. **Reference 4**. Enter crew baggage by location. Determine weight and moment. (T-2)

5.5.5. **Reference 5, 6,** and **7.** Determine amount of equipment on board and location. Compute weight and moment. (T-2)

5.5.6. **Reference 8.** Countermeasure expendables: Enter Chaff and Flare weight and moment as required. Use **Table 4.7** or TO 1C-130(M)W-5 **Figure 3.6**. (T-2)

5.5.7. **Reference 9.** Total of **references 1-8**.

5.5.8. **Reference 10.** Enter total fuel weight and determine moments using the primary or approved alternate method of calculation as outlined in **Paragraph 5.4.1.1**. (T-2)

5.5.9. **Reference 11.** Leave blank. (T-2)

5.5.10. **Reference 12.** Total of **references 9-10**.

5.5.11. **Reference 13.** Distribution of allowable load (payload).

5.5.11.1. Enter weight of cargo, pallets, vehicles, rolling stock, floor loaded cargo, etc., by determining the fuselage station of the cargo's center of balance (CB). Large items will be listed separately. Items loaded side by side may be combined. General cargo may be compartment loaded. (T-2)

5.5.11.2. Enter number and weight of passengers, troops, and/or litters using either a compartment centroid or individual's weight by location (fuselage station). Determine moment. (T-2)

5.5.11.3. Enter weight of munitions (i.e., 30mm ammunition, CLTs, SDBs) by compartment or fuselage station and determine moment. (T-2) **Note:** During Engine Running On/Offloads (ERO) or when planned ground times preclude use of procedures in **Paragraphs 5.5.11.1 5.5.11.3**, a combined load CB may be used if a validated load plan is presented. During ERO, a DD Form 365-4 is not required for subsequent sortie if the aircraft departs empty. The total load weight of **reference 13** shall not exceed the smallest allowable cabin load determined by the limitations block allowable cabin load (see **Paragraphs 5.3.2 5.3.2.3** and Notes). (T-2)

5.5.12. **Reference 14.** Compute Zero Fuel Weight (ZFW) and Zero Fuel Moment by combining **reference 9** with **reference 15**. Zero Fuel percent of Mean Aerodynamic Chord (MAC) enter N/A. (T-2)

5.5.13. **Reference 15**. Total load weight and moment of **reference 13** will be entered as "subtotal". (T-2)

5.5.14. **Reference 16.** Total of **references 12-15**.

5.5.15. **Reference 17.** Enter takeoff CG in percent of MAC. (T-2)

5.5.16. **Reference 18.** When applicable, enter corrections from computations in corrections block. (T-2)

5.5.17. **Reference 19.** Adjustments after weight and/or moment from **reference 18** are either added or subtracted to/from **reference 16** as required.

5.5.18. **Reference 20.** Enter corrected CG in percent of MAC, as required. (T-2)

5.5.19. **Reference 21.** Enter Zero Fuel Weight and Moment from **reference 14**. (T-2)

5.5.20. **Reference 22.** If required, subtract weight and moment of any expended munitions from **reference 21** and enter as corrected Zero Fuel Weight and Moment on a blank line in **reference 22.** Title as "corrected ZFW/Moment". (T-2)

5.5.21. **Reference 23.** Enter landing fuel weight and moment obtained by determining estimated fuel in all tanks for landing. Refer to **Paragraph 5.4.1.2** or **5.4.1.3**. Calculate fuel

moments using fuel charts in TO 1C-130(M)W-5 or by multiplying total estimated wing fuel on board by 0.552. (T-2)

5.5.22. **Reference 24.** Total of **references 21** and **23** or **22** (adjusted ZF weight and moment) and **23**.

5.5.23. **Reference 25.** Enter landing CG in percent of MAC. (T-2)

5.5.24. Remarks Block. In addition to takeoff and landing fuel breakdowns, enter weights for AR and FBO. (T-2)

5.5.25. Load adjuster number block. Leave blank. (T-2)

5.6. Tactical Form F Instructions

5.6.1. **Reference 1.** Enter basic weight and moment from the last entry of the certified copy of the DD Form 365-3, *Weight and Balance Record, Chart C* in the aircraft weight and balance handbook. (T-2)

5.6.2. **Reference 2.** Leave blank. (T-2)

5.6.3. **Reference 3.** Enter the following: (T-2)

5.6.3.1. Number of crew members, locations, weight, and moment from crew/cargo compartment tables contained in TO 1C-130(M)W-5 **Figure 3.19**.

5.6.3.2. Crew baggage by location. Determine weight and moment.

5.6.3.3. Determine amount of steward's, emergency, and extra equipment on board and location. Compute weight and moment.

5.6.3.4. Any additional cargo/passengers.

5.6.4. **Reference 4.** Total of **references 1 3**.

5.6.5. **References 5** and **6.** Enter weight of munitions (i.e., 30mm ammo, CLTs, SDBs, chaff, and flares) by compartment or fuselage station and determine moment. (T-2)

5.6.6. **Reference 7.** Enter total fuel weight and determine moments using the primary or approved alternate method of calculation as outlined in **Paragraph 5.4.1.1**. (T-2)

5.6.7. **Reference 8.** May be used for miscellaneous entries.

5.6.8. **Reference 9.** Total of **references 4** thru **8**.

5.6.9. **Reference 10.** Enter takeoff CG in percent of MAC. (T-2)

5.6.10. **Reference 11.** When applicable, enter corrections from computations in corrections block. (T-2)

5.6.11. **Reference 12.** Adjustments after weight and/or moment from **references 11** are either added or subtracted to/from **reference 9** as required. (T-2)

5.6.12. **Reference 13.** Enter corrected CG in percent of MAC, as required. (T-2)

5.6.13. **Reference 14.** Enter takeoff fuel weight and moment from **reference 7**, and the weight and moment of all munitions to be expended (30mm ammunition, CLTs, SDBs, chaff, and flares). If amounts of expendables are unknown, calculate for the most restrictive

landing condition. Use **Table 4.7** or TO 1C-130(M)W-5 **Figure 3.6** to calculate chaff and flare weight and moments. (T-2)

5.6.14. **Reference 15.** Enter landing fuel weight and moment obtained by determining estimated fuel in all tanks for landing. Refer to **Paragraph 5.4.1.2** or **5.4.1.3**. Calculate fuel moments using fuel tables in TO 1C-130(M)W-5 **Figure 3.3** or by multiplying total estimated wing fuel on board by 0.552. (T-2)

5.6.15. **Reference 16.** Determine the estimated landing condition by subtracting the fuel and expendables weight and moment of **reference 14** from the takeoff condition (**reference 9** or **12**), then adding **reference 15**. (T-2)

5.6.16. **Reference 17.** Enter landing CG in percent of MAC. (T-2)

5.7. Limiting Wing Fuel. **Table 5.1** may be used to determine maximum limiting wing fuel ACL for a given fuel load when in primary fuel management. Comply with the requirements outlined in **Paragraph 5.7.1** when using **Table 5.1**. Fuel weights are expressed in thousands. For fuel weights between chart weights, go to nearest fuel weight to determine base weight. Both takeoff and landing conditions must be calculated. The most restrictive will be placed on the DD-365-4, Weight and Balance Clearance Form F - Transport. (T-2)

5.7.1. Instructions for primary fuel management. **Table 5.1** is based on the recommended areas (Areas A, B, and C) of the Weight Limitations Chart (Primary Fuel Management) with Foam In Fuel Tanks in TO 1C-130(A)W-1, Section V. For Operations that do not meet these criteria, use the appropriate chart in TO 1C-130(A)W-1, Section V. (T-2)

Table 5.1. Limiting Wing Fuel Primary Fuel.

Total Fuel (K lbs)	Base Weight (lbs)	Total Fuel (K lbs)	Base Weight (lbs)
8	125,000	34	121,000
9	125,500	35	120,000
10	126,000	36	119,000
11	126,500	37	118,000
12	127,000	38	117,000
13	127,250	39	116,000
14	127,750	40	115,000
15	128,000	41	114,000
16	128,250	42	113,000
17	128,750	43	112,000
18	129,000	44	111,000
19	129,500	45	110,000
20	130,000	46	109,000
21	130,000	47	108,000
22	130,000	48	107,000
23	130,000	49	106,000
24	130,000	50	105,000

Total Fuel (K lbs)	Base Weight (lbs)	Total Fuel (K lbs)	Base Weight (lbs)
25	130,000	51	104,000
26	129,000	52	103,000
27	128,000	53	102,000
28	127,000	54	101,000
29	126,000	55	100,000
30	125,000	56	99,000
31	124,000	57	98,000
32	123,000	58	97,000
33	122,000		

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure,* 19 January 2012

AFI 11-202, Vol 2, *Aircrew Standardization/Evaluation Program*, 13 September 2010

AFI 11-215, *Flight Manuals Program (FMP),* 22 December 2008

AFI 11-2MC-130, Vol 3 Addenda B, *MC-130H Operation Configuration/Mission Planning,* 31 August 2006

AFMAN 33-363, *Management of Records*, 1 March 2008

AFPD 11-2, *Aircrew Operations*, 19 January 2012

DoDD 7730.57, *Aviation Career Incentive Act of 1974 and Required Annual Report, with Changes 1 and 2,* 5 February 1976

TO 1C-130(A)W-1, *Flight Manual AC-130W,* 11 February 2013

TO 1C-130(M)W-5, *Sample Basic Weight Checklist and Loading Data*, 1 November 2009

TO 1C-130A-9, *Cargo Loading Manual*, 7 December 2009

Adopted Forms

AF IMT Form 847, *Recommendation for Change of Publication*

AFTO Form 781A, *Maintenance Discrepancy and Work Document*

DD Form 365-3, Chart C, *Basic Weight and Balance Record*

DD Form 365-4, *Weight and Balance Clearance Form F*

Abbreviations and Acronyms

ACL—Allowable Cabin Load

ADS—Aerial Delivery System

AE—Aeromedical Evacuation

AERPS—Aircrew Eye Respiratory Protection System

AF—Air Force

AFE—Aircrew Flight Equipment

AFF—Automated Form F

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Document

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFSOC—Air Force Special Operations Command

AFTO—Air Force Technical Order

AG—Aerial Gunner

ANG—Air National Guard

APU—Auxiliary Power Unit

AR—Air Refueling

ARMS—Aviation Resource Management System

C—Cargo

CB—Center of Balance

CG—Center of Gravity

CLT—Common Launch Tube

COMAFSOF—Commander Air Force Special Operations Forces

CP—Cargo and Passengers

EEBD—Emergency Escape Breathing Device

EFB—Electronic Flight Bag

ELF—Estimated Landing Fuel

EPOS—Emergency Passenger Oxygen System

ERO—Engine Running On/Offloads

FBO—Fuel Burn Off

FE—Flight Engineer

FL—Flight Level

FS—Fuselage Station

FT—Feet

GWS—Gun Weapon System

HERP—Hostile Environment Repair Procedures

HQ—Headquarters

IAW—In Accordance With

ICAO—International Civil Aviation Organization

ICS—Interphone Communication System

IP—Instructor Pilot

IMT—Information Management Tool

LPU—Life Preserver Unit

NAV—Navigator

MAC—Mean Aerodynamic Chord

MEGP—Mission Essential Ground Personnel

MOP—Mission Operator Pallet

OPR—Office of Primary Responsibility

P—Passenger

PBE—Protective Breathing Equipment

PCK—Protective Clothing Kit

PGM—Precision Guided Munitions

PTT—Push to Talk

QA—Quality Assurance

RDS—Records Disposition Schedule

SDB—Small Diameter Bomb

TO—Technical Order

ZFW—Zero Fuel Weight